UTAH COUNTY
CORE 15
CORRIDOR EXPANSION

Engineering Conference

Dal Hawks | Project Director

UDOT

UTAH COUNTY CORE 15 CORRIDOR EXPANSION

Outline

- Introduction and Overview
- EIS History
- Risk Management
- Procurement
- Systems
- Questions and Answers

UTAH COUNTY CORE 15 CORRIDOR EXPANSION

Key Presenters

Dal Hawks | Project Director

Todd Jensen | Deputy Director

Merrell Jolley | Project Engineer

John Bourne | Program Manager

Dan Dixon | Design Services Manager

Luis Porrello | Traffic and ITS Manager

Brian Atkinson | Roadway Design Manager

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Introduction and Overview

Dal Hawks | Project Director

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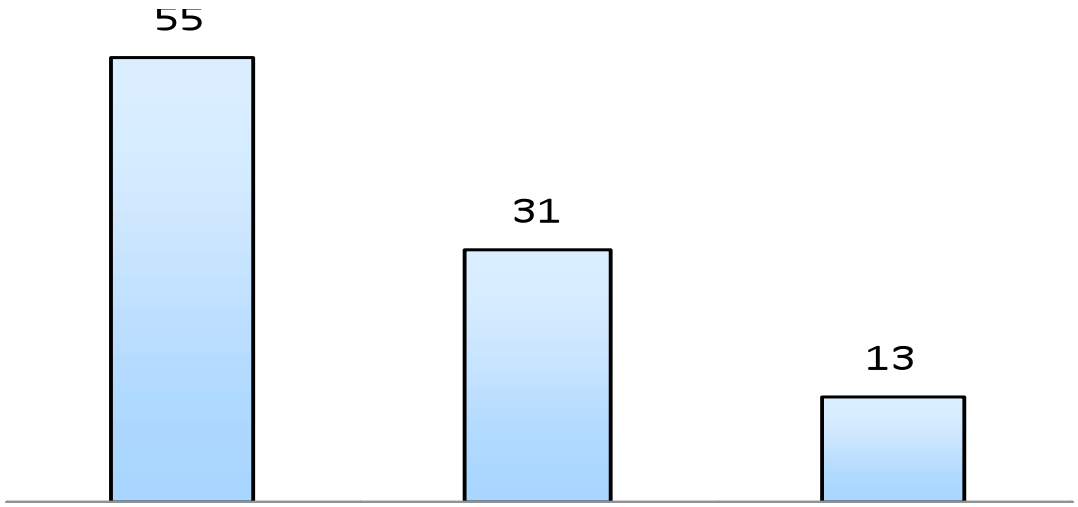
How does traffic congestion rate on your list of community concerns?



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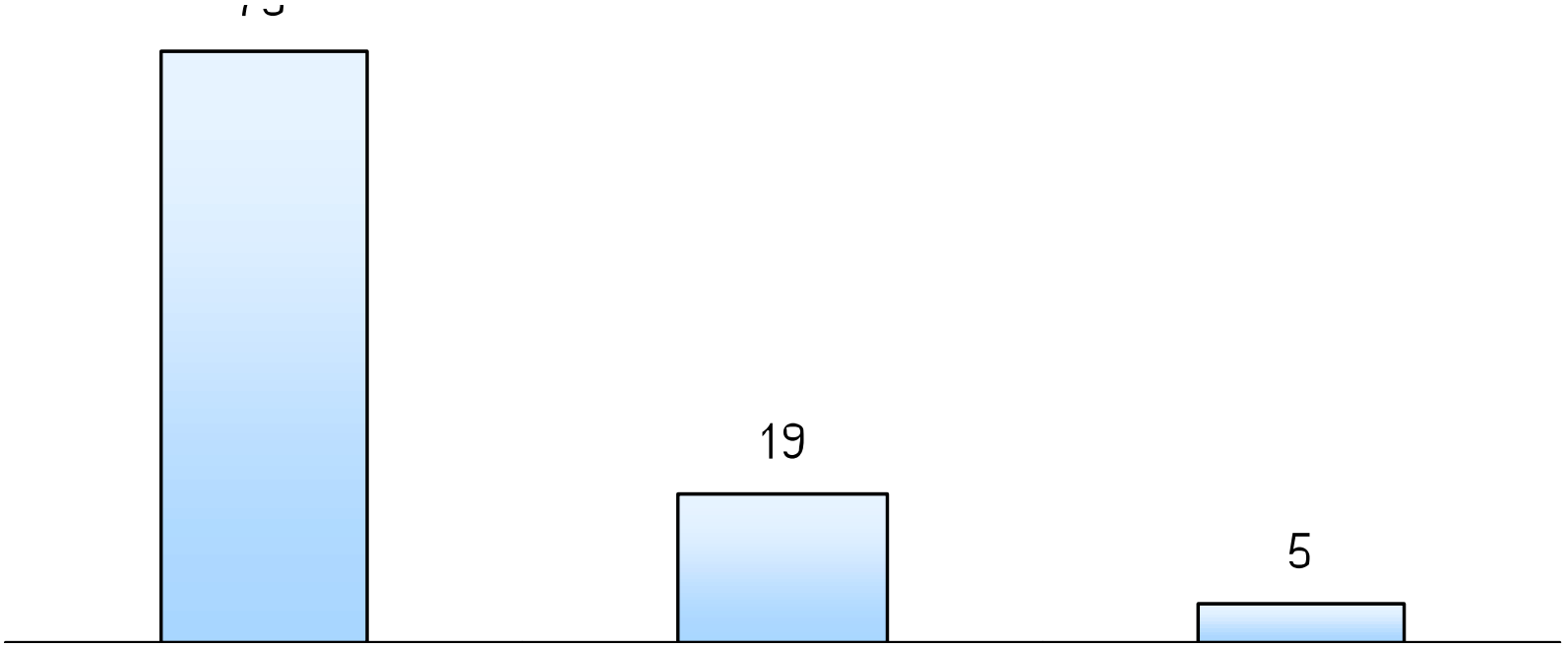
Is traffic congestion more or less of a problem than it was two to three years ago?



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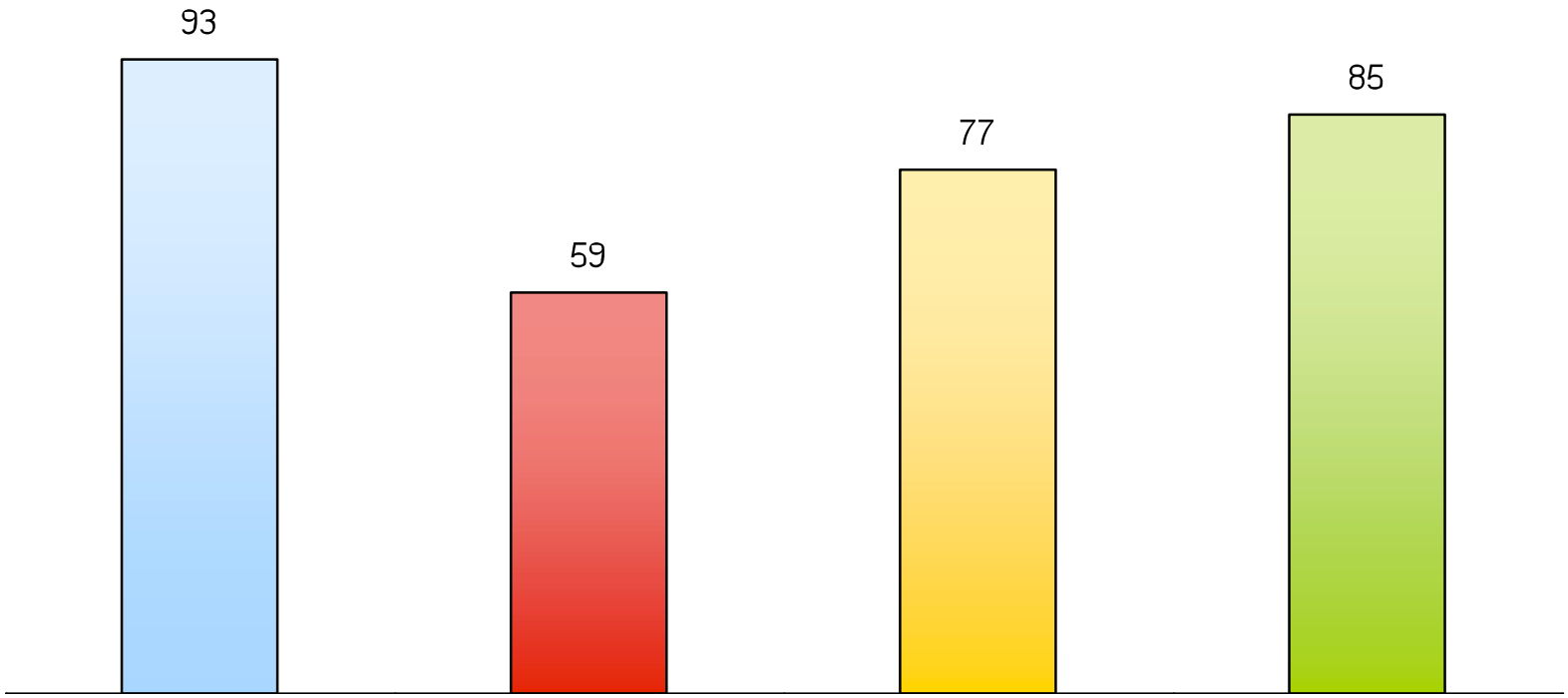
Public confidence ratings



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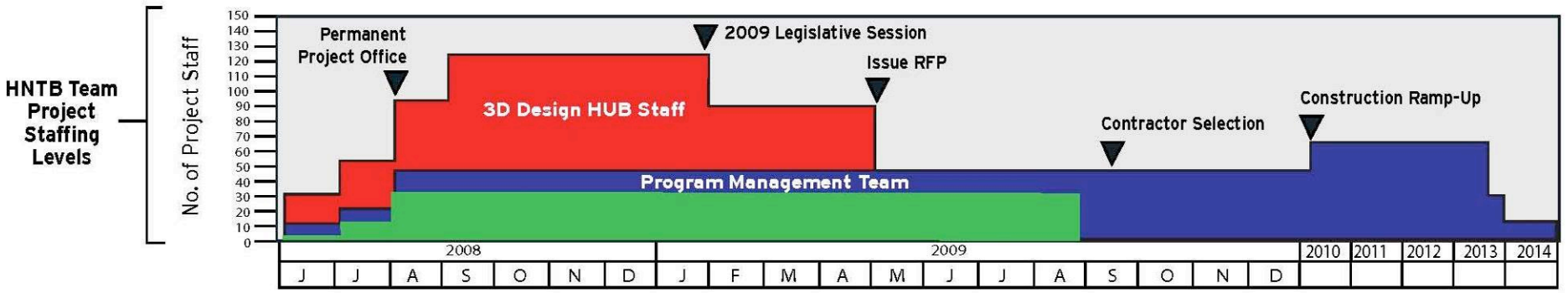
Consultant Selection: HNTB

- Interviews conducted May 21, 2008
- HNTB selected May 22, 2008
- Contract executed June 2, 2008
- Consultant firms peak staffing level: 120 to 130
- Large, multi-disciplinary team equivalent to a new UDOT Region



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Mission

- Select design-build (DB) contractor: September 2009
- Start construction: March 2010

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I-15 CORE
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Project Goals

Deliver I-15 CORE within the budget

Provide the highest value for the budget

Minimize inconvenience to the public

Complete I-15 CORE by Fall 2014

Uphold the public trust

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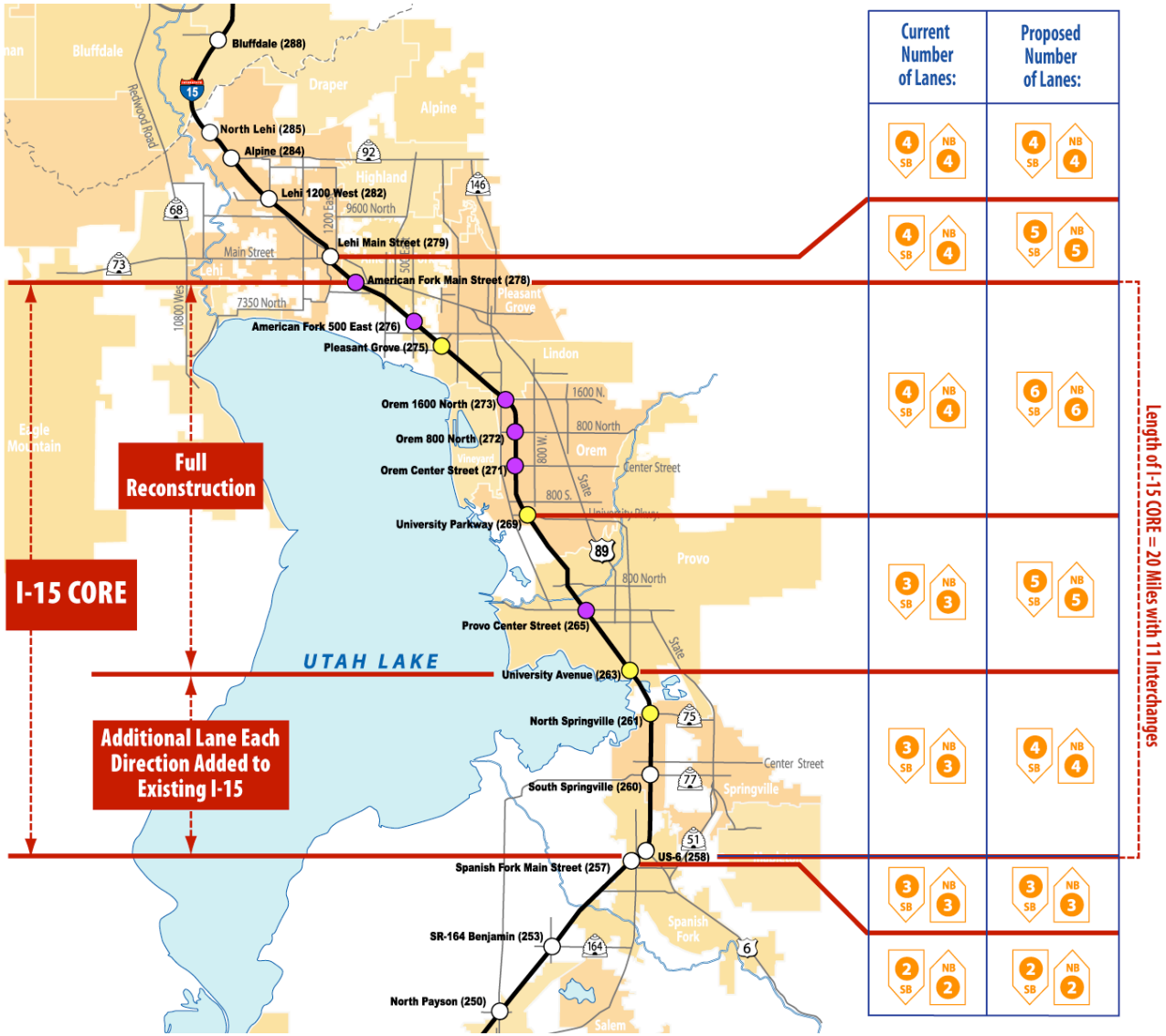
Project Scope



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Project Schedule

UTAH COUNTY CORE 15 CORRIDOR EXPANSION

Budget

- $2.6 Billion
  - Design
  - Construction
  - Right of Way (ROW)
  - Utilities
  - Management

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Introduction and Overview

John Bourne | Project Manager

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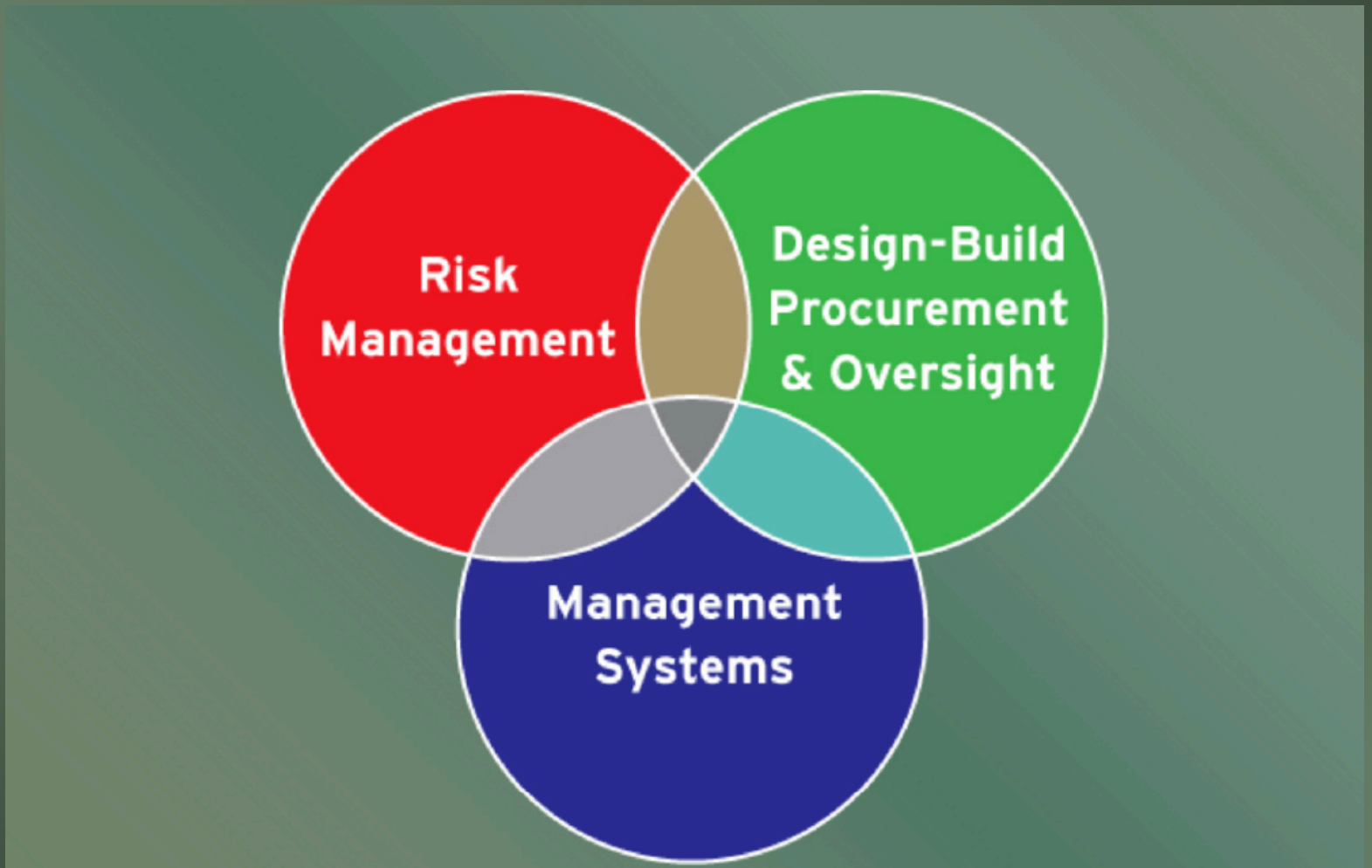
Project Approach



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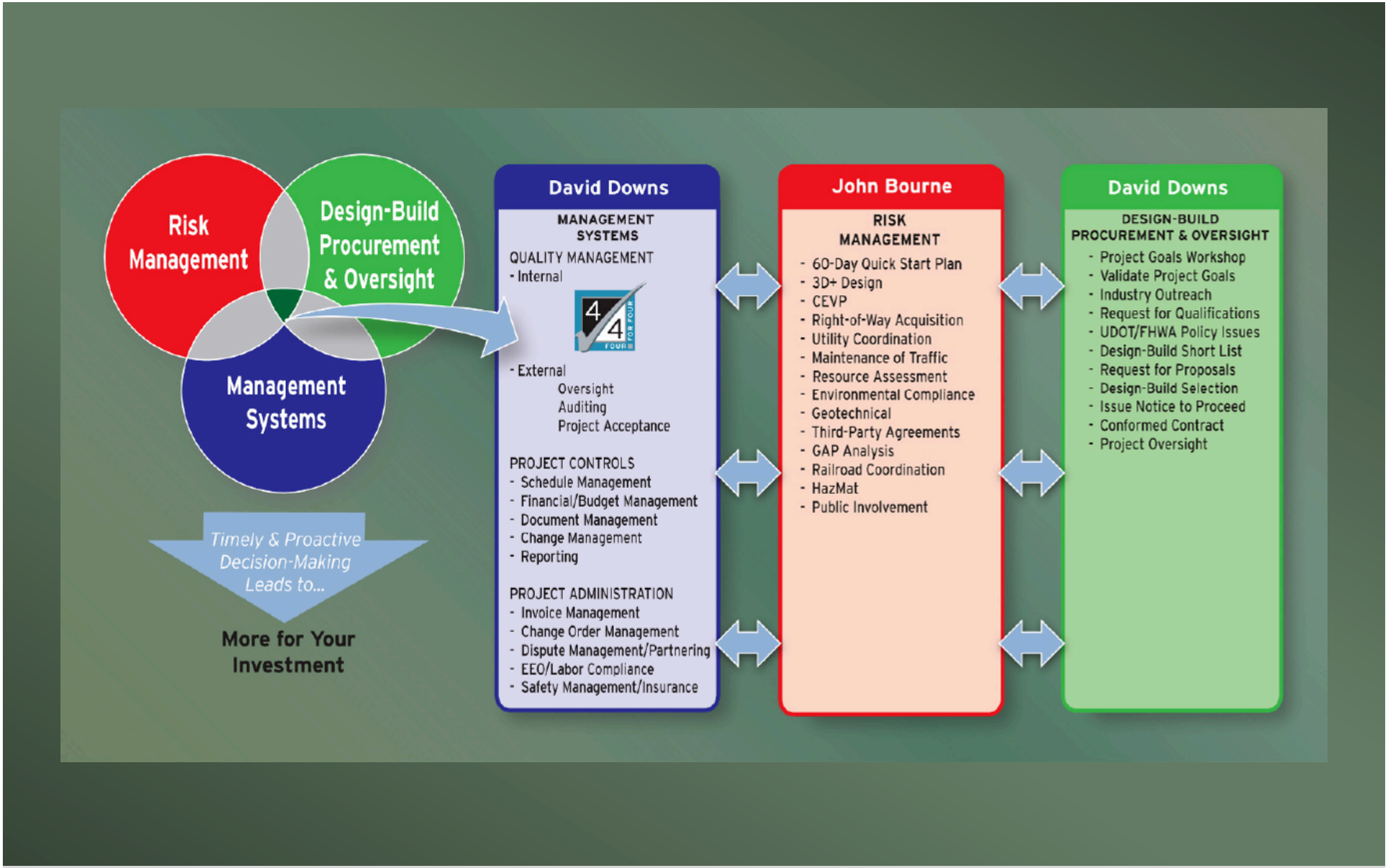
Project Approach



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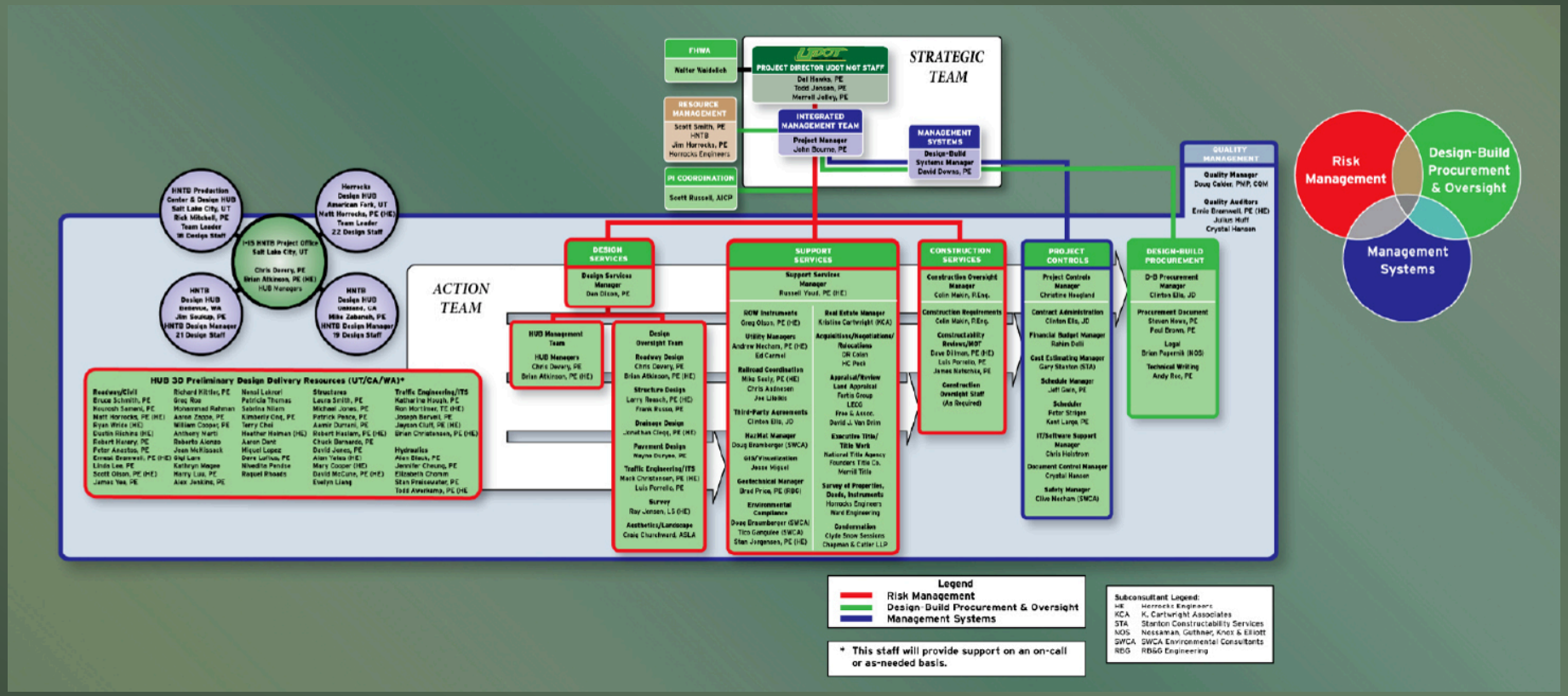
Team Organization (HUB)



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Program Management Plan

- Section 1904(a) of SAFETEA-LU
  - Major project (>$500 M)
  - PMP and FMP required
- Reduces learning curve for team members
- Facilitates continuous improvement
- Provides confidence to executive management
- Captures best practices
- Improves consistency through standardization

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EIS History

Merrell Jolley | Engineering Director

From EIS to I-15 CORE

- The Environmental Impact Statement (EIS) prepared the way for I-15 CORE
  - Built consensus
  - Managed expectations
  - Provided funding scenarios
  - Obtained the ROD

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Purpose and Need

- Purpose and need
  - Relieve 2030 peak congestion on I-15 mainline and interchanges
- Objectives
  - Achieve level of service D at interchanges
  - Improve safety
  - Obtain consistency with regional and local transportation plans
  - Improve regional and intra-county movement of people and goods

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Coordination Challenges

- 43 highway miles (60 miles including transit)
- 22 interchanges
- 99 bridges
- 2 MPOs
- Federal Highway Administration
- FTA
- UTA
- 25 municipalities
- 2 counties
- 4 legislative sessions

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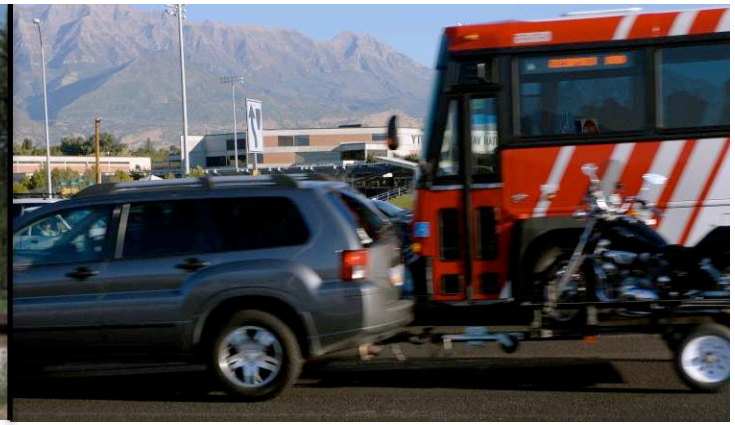
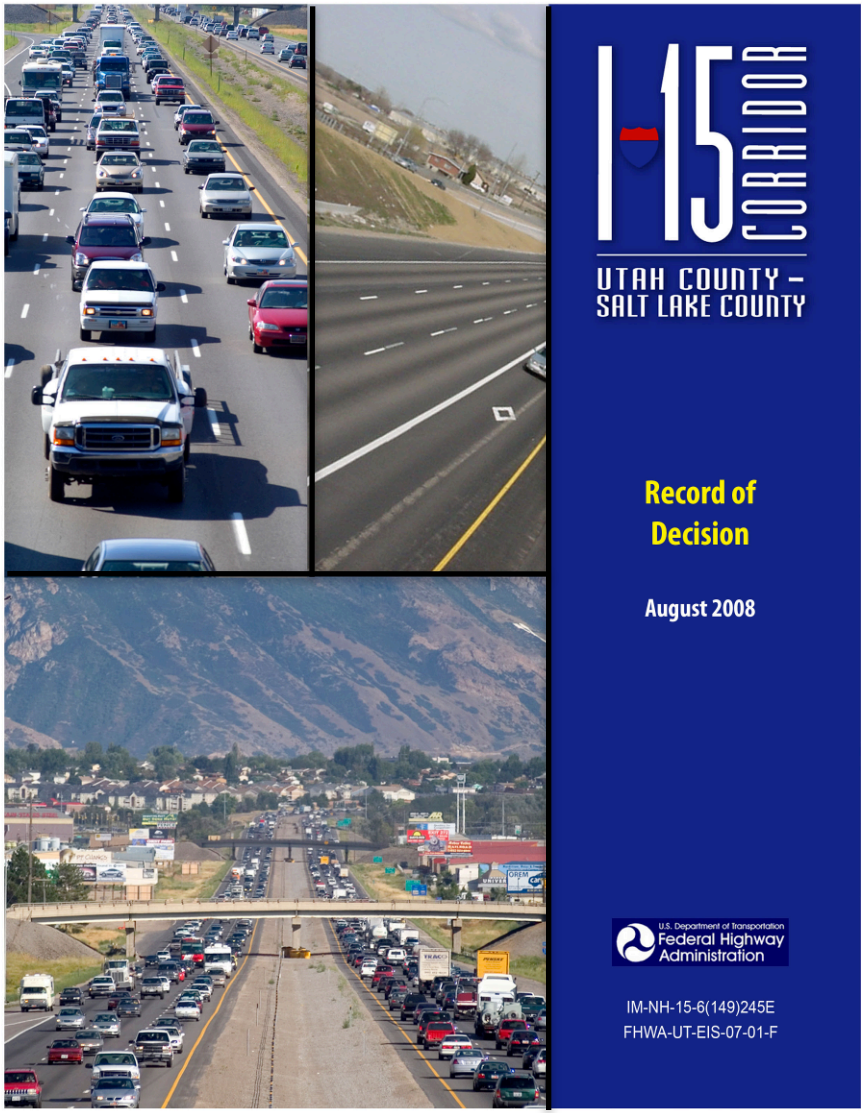
Alternatives Development Process

- Highway components
- Transit components
- Mixed components
- Proposition passed in 2006: Salt Lake and Utah Counties
- Separation of documents in spring 2007: UDOT I-15 and UTA Frontrunner



Milestones

- 52 months from start to ROD
  - Started process June 2004
  - DEIS published Jan 2008
  - FEIS published June 2008
  - ROD signed Aug 15, 2008
  - 404 Pending



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Risk

Dan Dixon | Environment and Design

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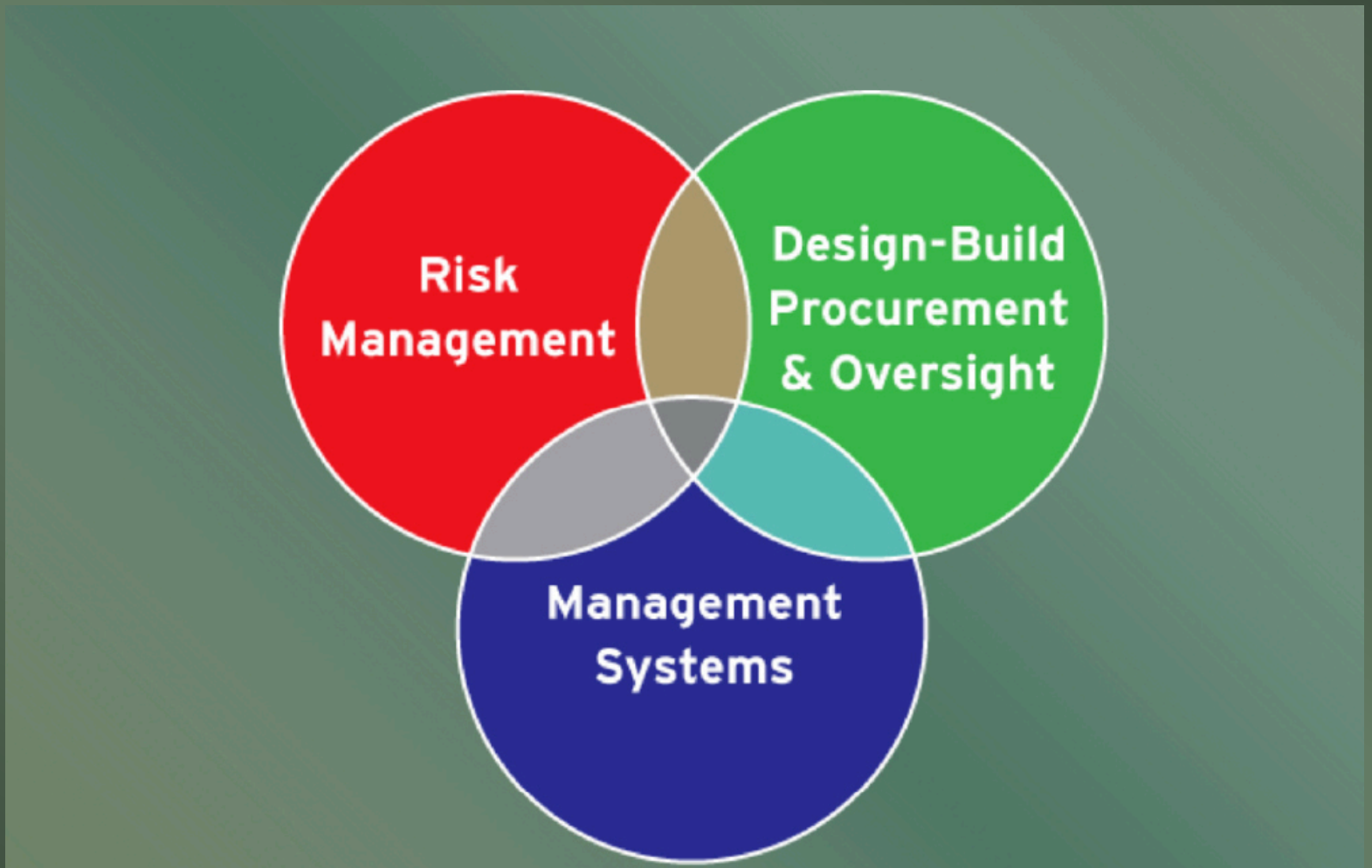
Project Approach



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Risk Management

- ROW
- Utilities
- Resource Assessment
- Railroad
- Geotech
- 3rd party agreements
- 3D+ design
- Environmental
- MOT

Risk and Opportunity Matrix

- Focus design
  - Environmental process commitments
  - Project goals
  - Risk and opportunity assessment and management
  - Procurement process

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Risk and Opportunity Matrix

- Traffic
- Facility design
- Sensitive areas
- Railroad and utilities
- MOT
- ROW

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Vetted Information = Less Risk

- Traffic model
- Design environment
  - Right of way
  - Utilities: aerial, buried (tagged with SUE level of confidence)
  - Sensitive areas
  - HazMat
  - Geotechnical borings
  - RFP interpretation of design requirements
- Support state-of-the-art construction approaches

View 1-15 Immersive

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How would a DB team approach this?

- Requirement: Address safety concerns at Provo “S” curves
  - Owner priorities
    - Contained in RFP
  - Contractor priorities
    - Quantities and cost
    - Schedule

View Proposed “S” Curves

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Risk

Luis Porrello | Traffic and ITS Manager

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Objectives of Traffic Analysis

- Verification of EIS geometry
  - Mainline
  - Interchanges
- Basis for RFP design
- Assessment of MOT possibilities
- Evaluation of proposals
  - Common evaluation framework
- Stakeholder engagement

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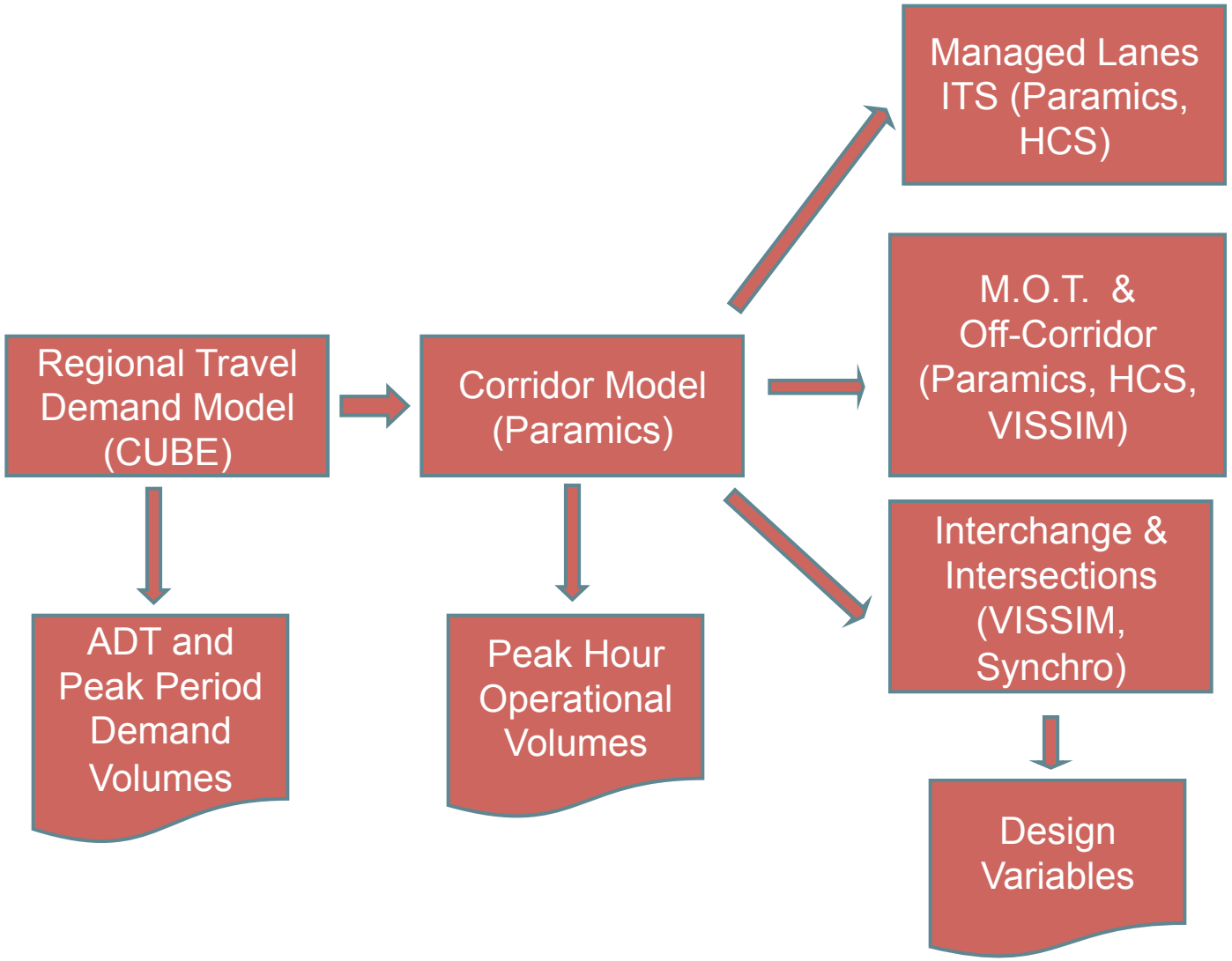
Traffic Analysis Workflow



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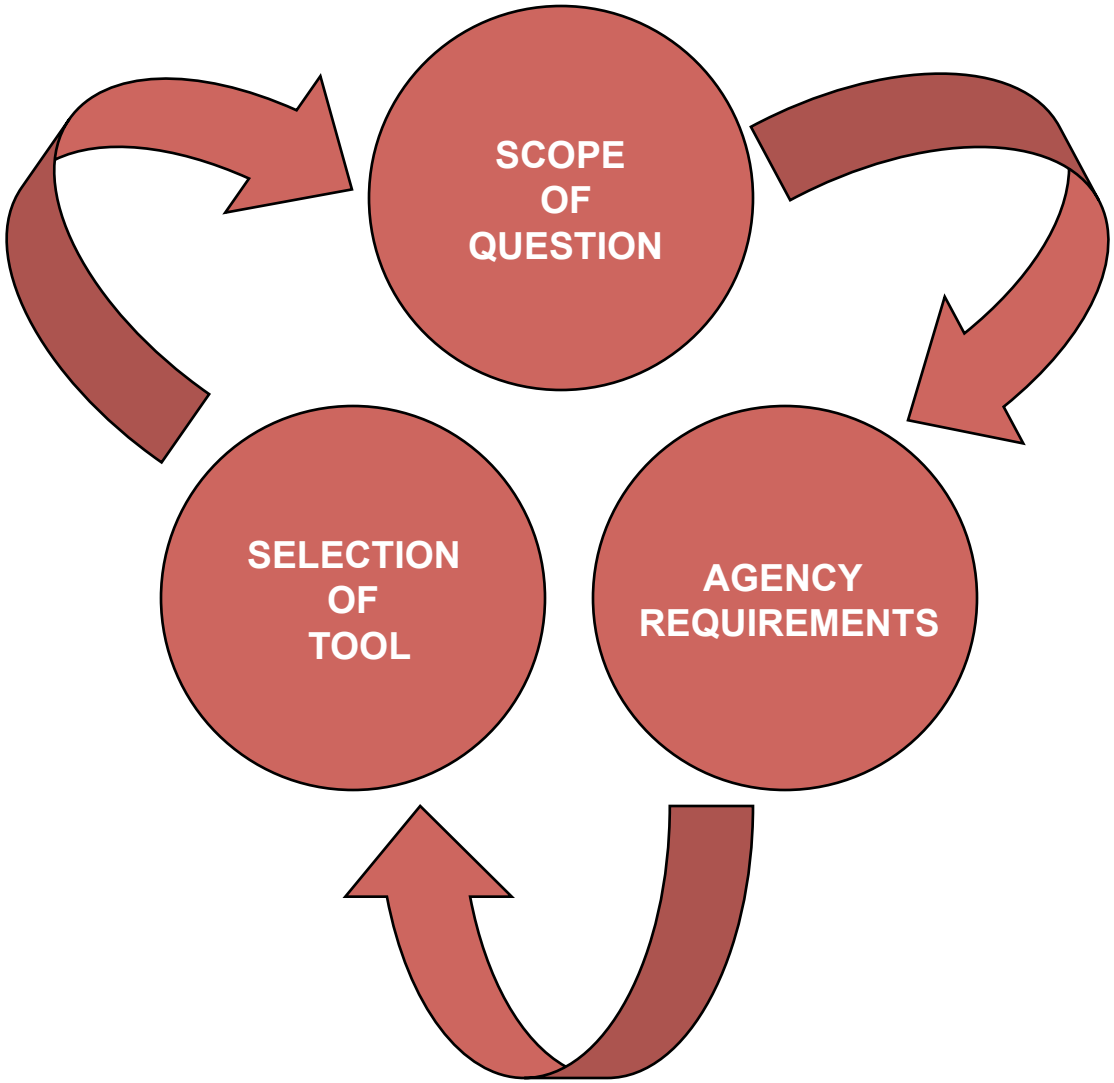
Decision-Oriented Analysis



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Travel Demand Model

- Regional Model provides traffic demands sensitive to:
  - Four time periods
  - Capacity constrained routing
  - Roadway closures
  - Mode choice
  - Year 2008, 2015 and 2030

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Travel Demand Model

- Use Regional Model for:
  - ADT and peak period demands
  - Mode split
  - Subarea extraction for Paramics analysis
  - Diversion estimates during construction

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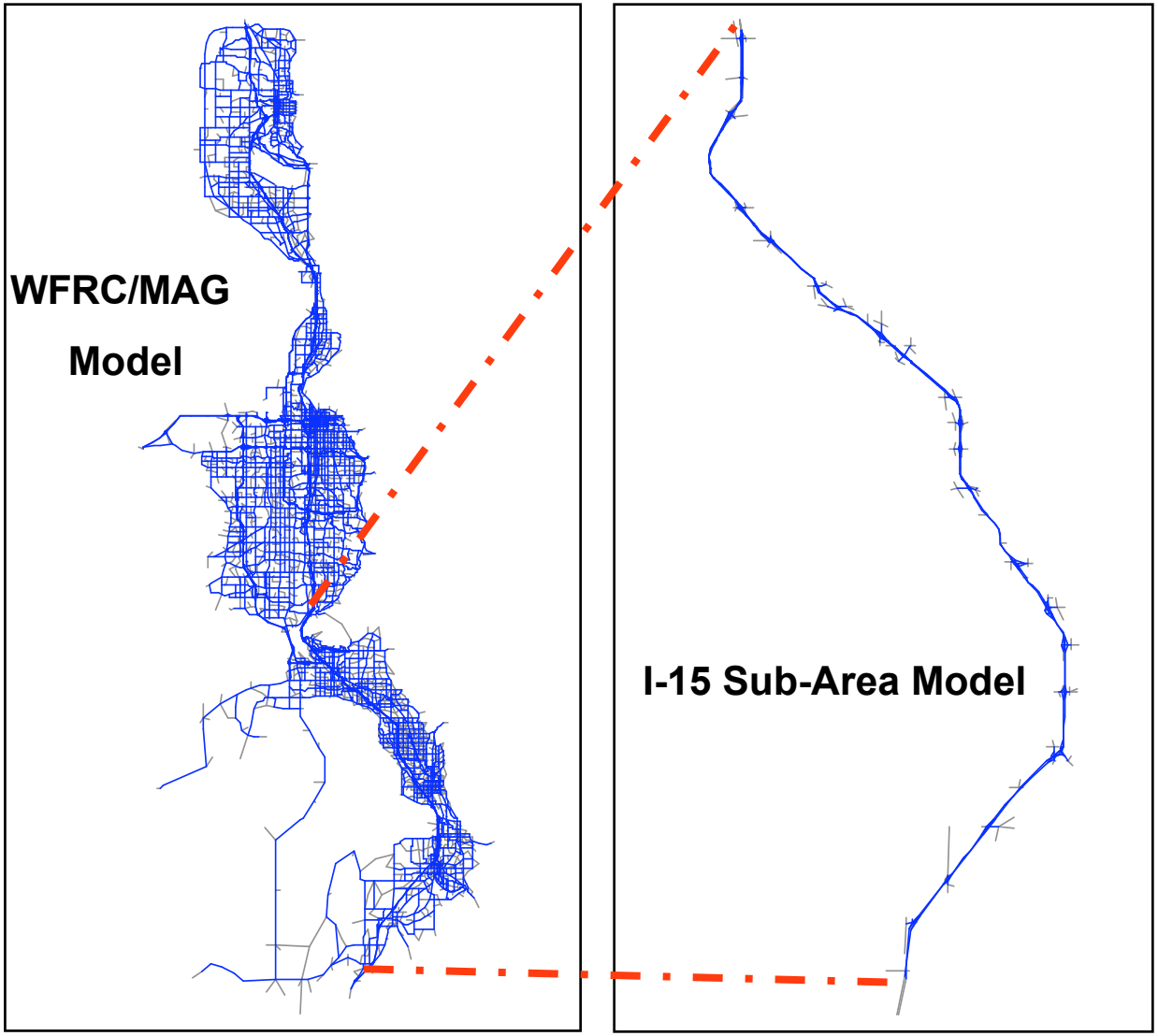
Travel Demand Model



Traffic

- Paramics (Meso)
  - PARAMICS model network from 12300 S to S Payson
  - Evaluate impacts to mainline & alternative routes in peak hours
- Vissim (Micro)
  - Traffic operations analysis
  - Roadway design support
  - Analysis of unique features (ramp metering, express lanes, project and GP/EP transitions)
- Synchro/HCS (Point)
  - Signals and mainline point analyses

View DDI #1 | View DDI #2 | View North Terminus

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ITS

- Minimum agency requirements
- MOT/Ultimate installations
- Design guidance/standards
- Functional specifications

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Risk

Brian Atkinson | Roadway Design Manager

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Mapping Level of Confidence

- Use of existing information
- Honoring time requirements
- Use of DEI for supplemental surveying and processing

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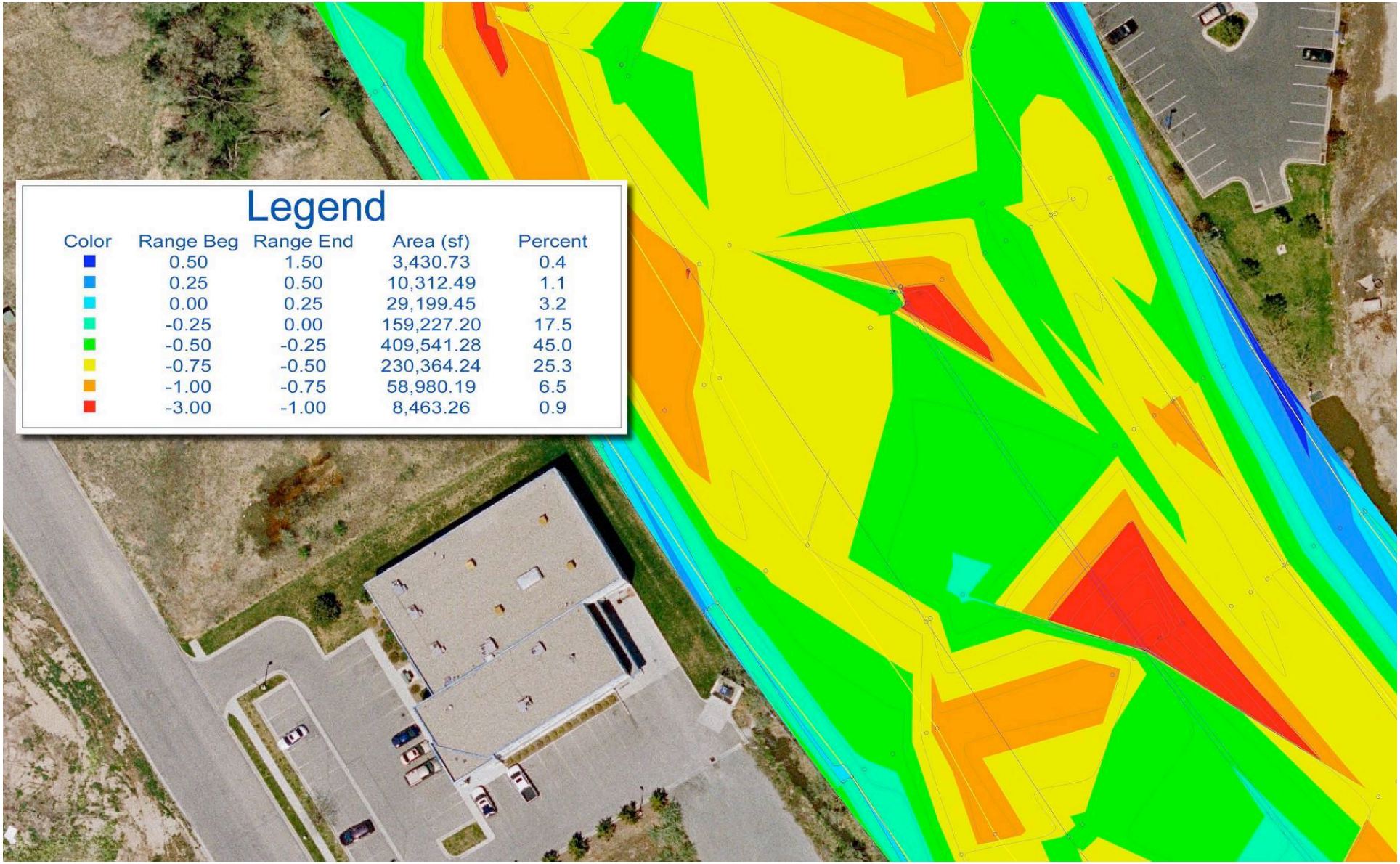
Mapping Level of Confidence



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Procurement

Todd Jensen |Deputy Director

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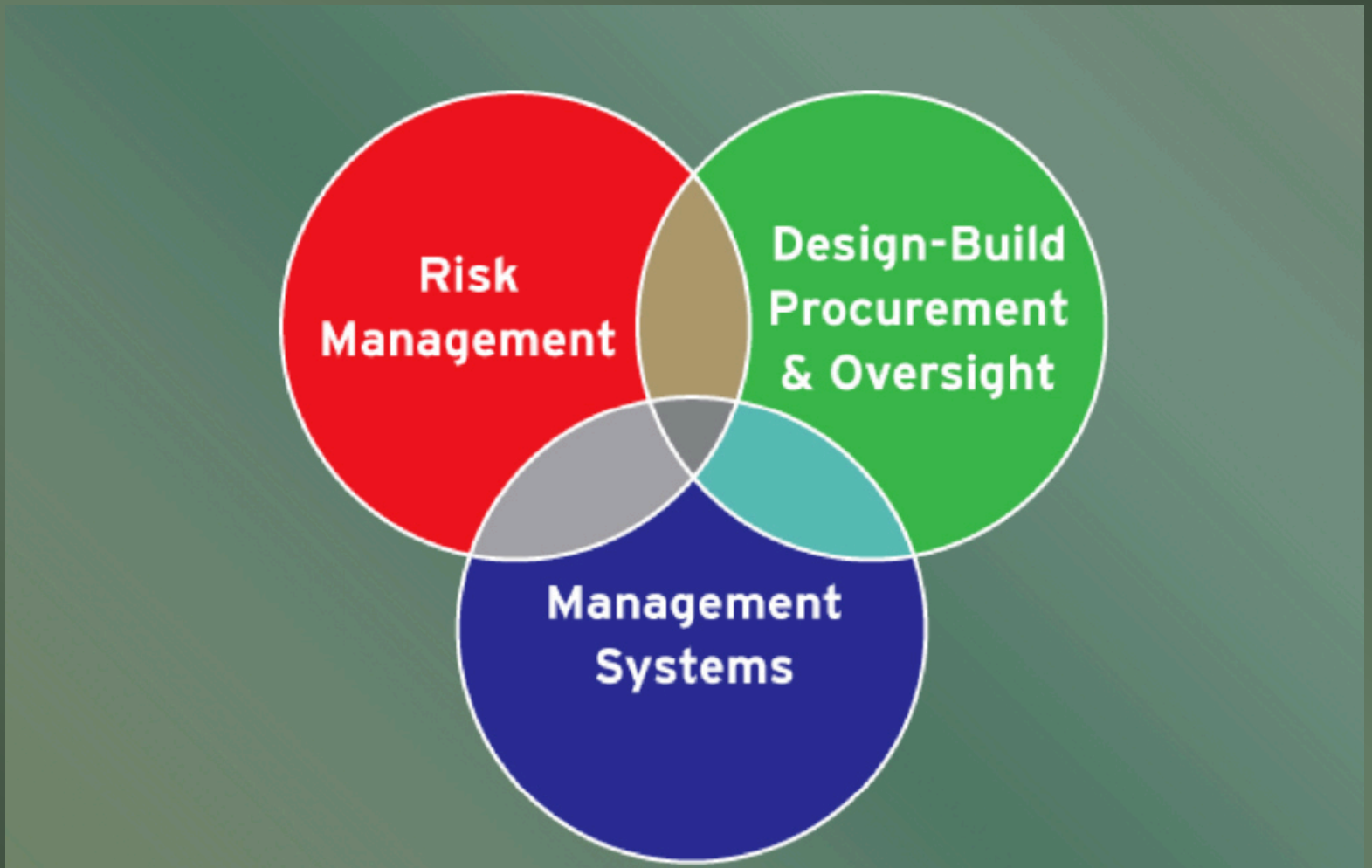
Project Approach



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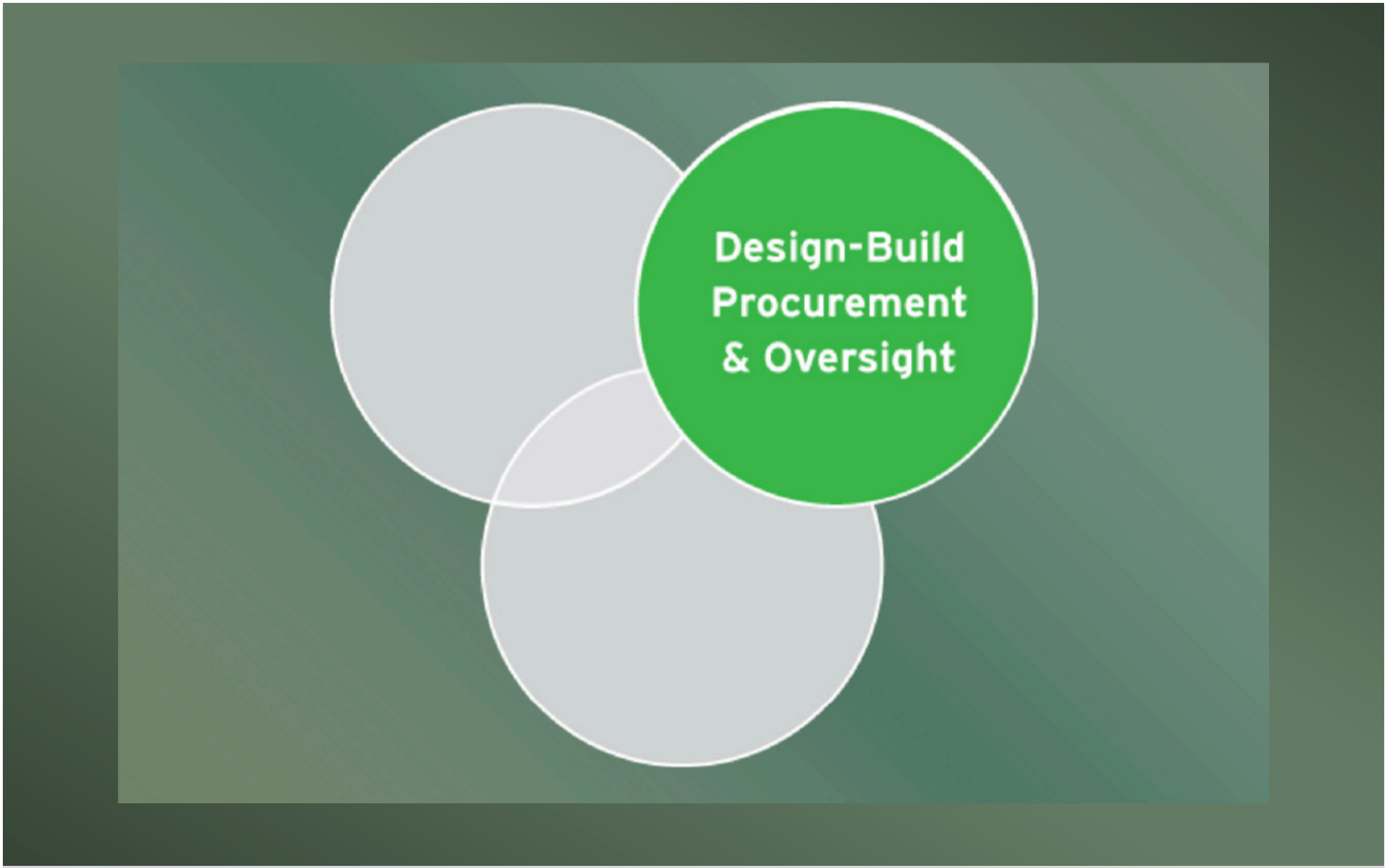
Design-Build Procurement and Oversight



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Industry Outreach

- Encourages competition, which enhances “best value”
- Provides a channel for feedback

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RFP Development

- UDOT has excellent DB experience to draw on
- Team has national DB experience to draw on
- Large project requires careful review of all contract provisions

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Fixed Price/Best Design Approach

- 43-mile corridor of I-15 in EIS at cost of $5 B
- Constrained budget
- Analysis of DB approaches led to Fixed Price/Best Design method

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Key Strategies

- Identify project “must haves”
- Prioritize important project elements
- Develop evaluation criteria that reflects priorities
- Encourage innovation

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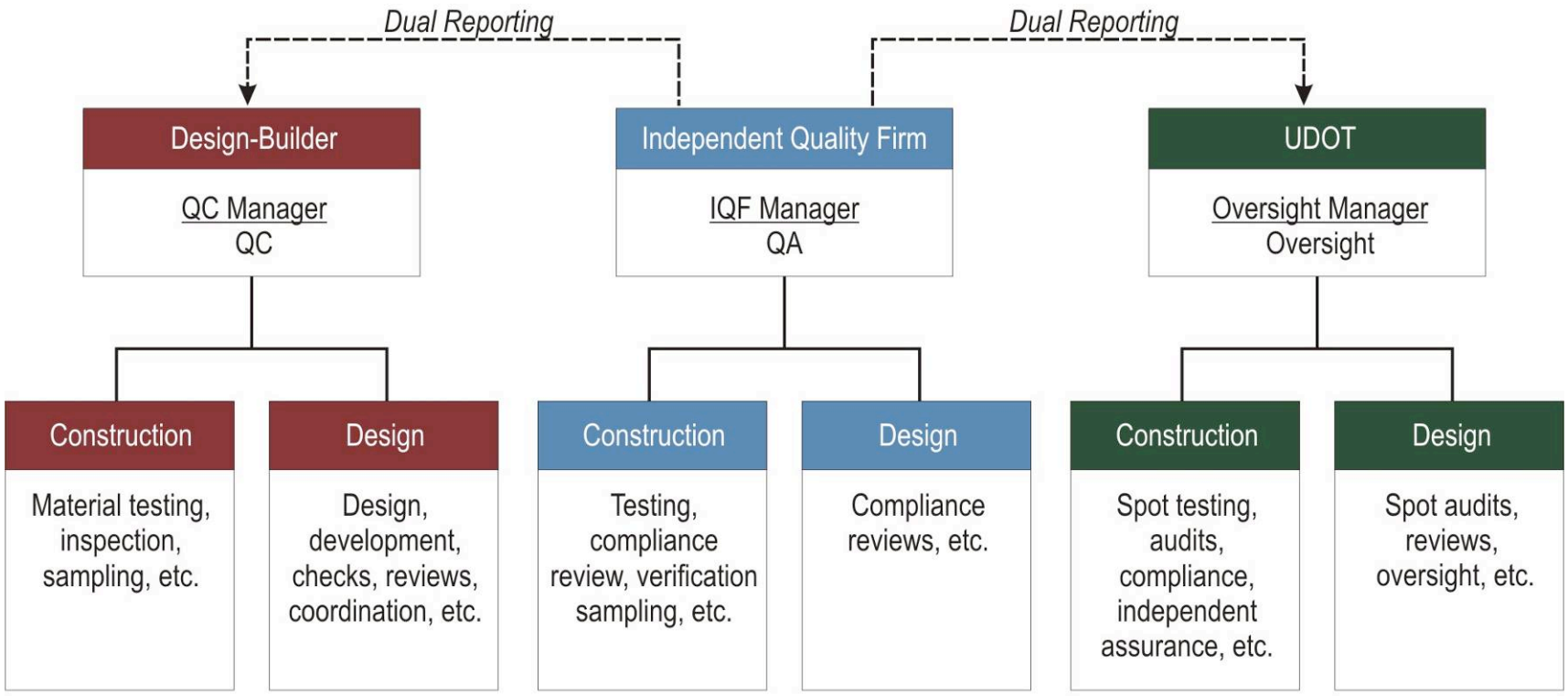
Quality Program



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Procurement Timeline

- Nov 2008: Issue letter of interest
- Nov/Dec 2008: Conduct project informational meetings
- Dec 2008: Issue request for qualifications (RFQ)
- Jan 2009: Short list design-build teams
- Feb 2009: Industry discussions
- Apr 2009: Issue request for proposals (RFP)
- Sept 2009: RFP acceptance deadline
- Fall 2009: Select design-build team
- Fall 2009: Issue notice to proceed (NTP)

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Systems

John Bourne | Project Manager

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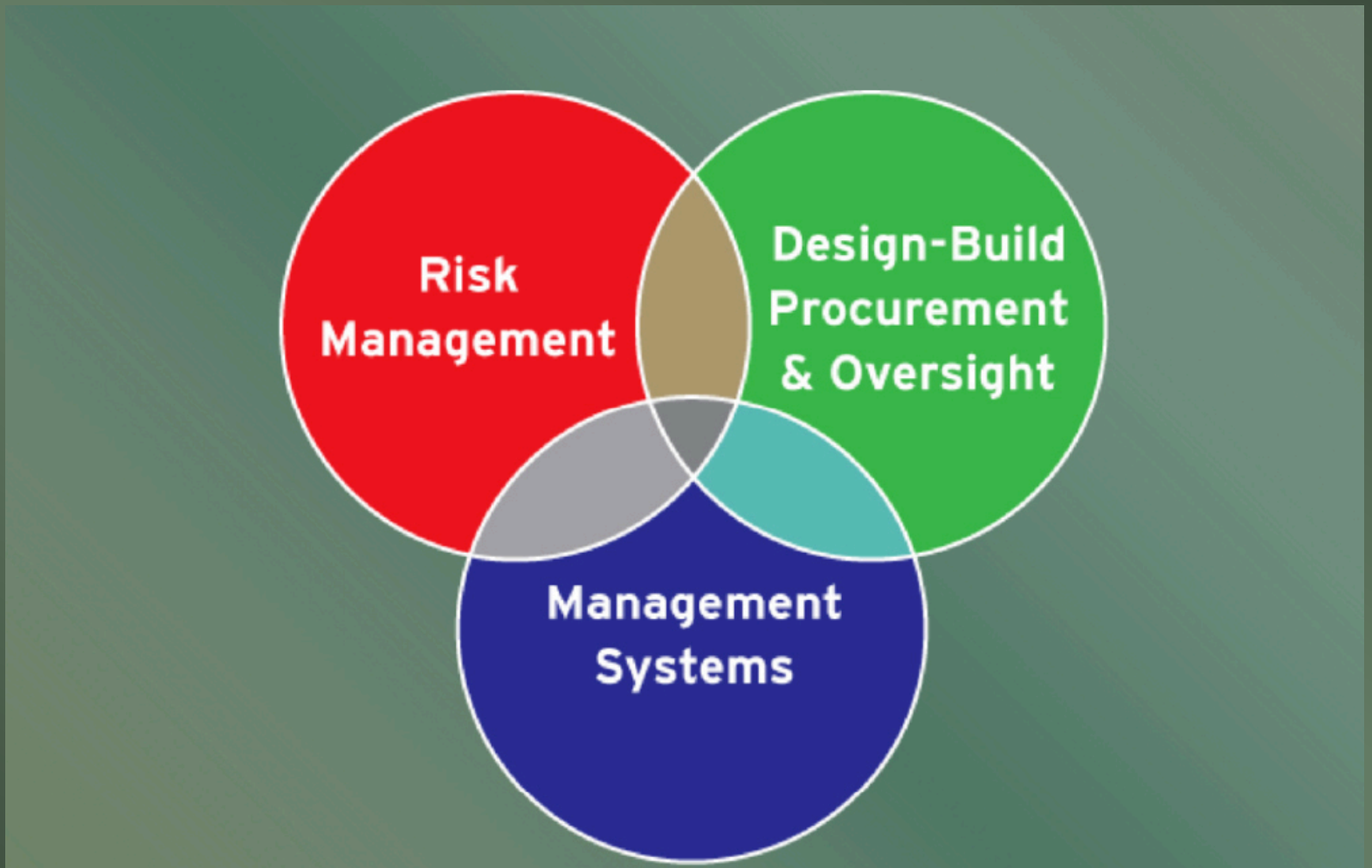
Project Approach



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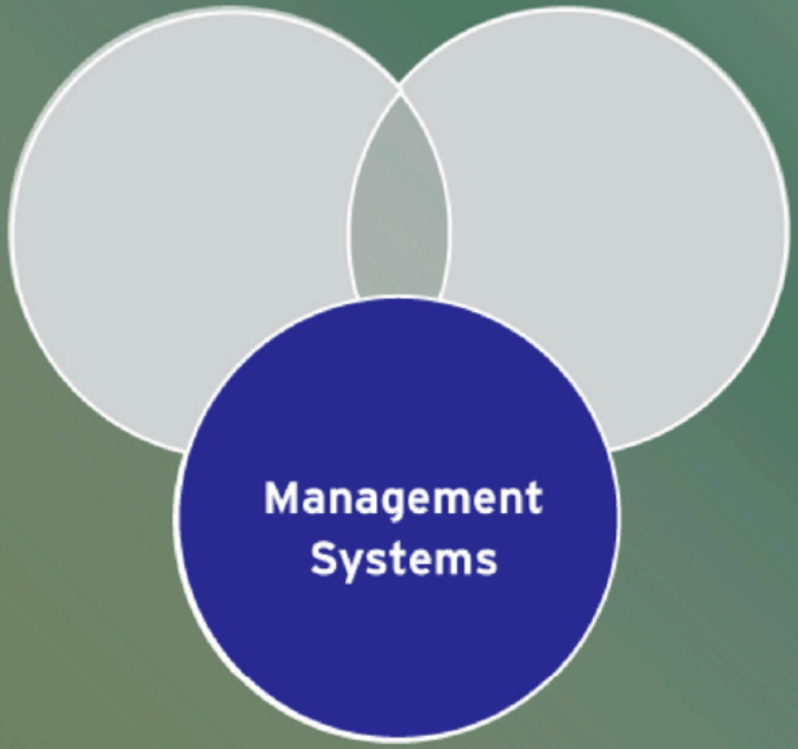
Management Systems



- Quality management
- Contract administration
- Project controls

Management Systems

- Dash Port
- RIMS: utilities and right-of-way
- Primavera
  - P6
  - Contract Manager
  - Web Access
- ProjectWise

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Questions and Answers

Dal Hawks | Project Director

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Engineering Conference

Dal Hawks | Project Director

11/5/2008

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